

RAW SEQUENCE LISTING                      DATE: 04/03/2001  
 PATENT APPLICATION: US/09/803,719              TIME: 20:20:02

Input Set : A:\Pto.amc  
 Output Set: N:\CRF3\04032001\I803719.raw

P5

```

4 <110> APPLICANT: Williams, Lewis T.
5     Escobedo, Jaime
6     Innis, Michael A.
7     Garcia, Pablo Dominiguez
8     Sudduth-Klinger, Julie
9     Reinhard, Christoph
10    Giese, Klaus
11    Randazzo, Filippo
12    Kennedy, Giulia C.
13    Pot, David
14    Kassam, Altaf
15    Lamson, George
16    Drmanac, Radoje
17    Crkvenjakov, Radomir
18    Dickson, Mark
19    Drmanac, Snezana
20    Labat, Ivan
21    Leshkowitz, Dena
22    Kita, David
23    Garcia, Veronica
24    Jones, Lee William
25    Stache-Crain, Birgit
27 <120> TITLE OF INVENTION: Human Genes and Gene Products
30 <130> FILE REFERENCE: 1624.002
C--> 32 <140> CURRENT APPLICATION NUMBER: US/09/803,719
C--> 32 <141> CURRENT FILING DATE: 2001-03-09
32 <150> PRIOR APPLICATION NUMBER: 60/188,609
33 <151> PRIOR FILING DATE: 2000-03-09
35 <160> NUMBER OF SEQ ID NOS: 2396
37 <170> SOFTWARE: FastSEQ for Windows Version 4.0
39 <210> SEQ ID NO: 1
40 <211> LENGTH: 362
41 <212> TYPE: DNA
42 <213> ORGANISM: Homo sapiens
44 <220> FEATURE:
45 <221> NAME/KEY: misc_feature
46 <222> LOCATION: (1)...(362)
47 <223> OTHER INFORMATION: n = A,T,C or G
49 <400> SEQUENCE: 1
50 atggggacgg aggaggaaag aaagacagcc actgggttcc ccgtgttcac acacttggtc      60
51 tctttctctc tttctgctga ctggtctgag ggttagcatt tgtatccgca aaatggcttt      120
52 tgagtcctca cagacagtgg ctttgagaaa cctgctcttg gtgtcccccac atgacctcat      180
53 tggteaacct tagtgctgct aacagcaaga caagcagata ctgtgtgcat tccgacatga      240
54 ggcagtacaa agtacatagt atcacctagg aactagtctt gccaaaagca gaggggggca      300
W--> 55 ggggggagaca gagagacaca nagagagaaa cagagaccgt gacagtgaga aatttaacct      360
W--> 56 an
58 <210> SEQ ID NO: 2

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59 <211> LENGTH: 273
60 <212> TYPE: DNA
61 <213> ORGANISM: Homo sapiens
63 <400> SEQUENCE: 2
64 agtaatatga cacatttcaa ttaaaatagt cacatgtctt cccattactc atctctccta      60
65 agccaatgta aaagcttggg ttatatgtgt agatacaata ataataaata ggtcttttta      120
66 gtaaatttat gcttaactat ccagcaacat ggtaatgggt atgtggccct taggttttta      180
67 cagattgatt ttgttggttaa gtttcatttt ctcttttta agtgcttttt ttggataact      240
68 gttaatagct acttagttgg gtattaaaga aag                                     273
70 <210> SEQ ID NO: 3
71 <211> LENGTH: 380
72 <212> TYPE: DNA
73 <213> ORGANISM: Homo sapiens
75 <400> SEQUENCE: 3
76 tacggttgcg agatgacgac agacgggcct ggctgatcac ctgcggccgc ttgattgaga      60
77 ccagcctgac ccttattttg aaaccggggc tatactattg ctacatattt aactgttctt      120
78 ggtggcacat gctgtaata ccatctacta tgcagtggga ggctggataa tcacttgaac      180
79 ctgggaggcg aaggttgttg tgagccgaga tcgcaccatt gcaactccagc ctgggcaaca      240
80 agagcgaaac tacgtctcat aaaaaaaaaa aaaaaaaca tgggggcccg ttttttgggt      300
81 attcccacca tgaaaaaaat cattgcaggg gtgggccaac cccactctaa ggtggcgggt      360
82 aaaaaaactt ttttttggtc                                     380
84 <210> SEQ ID NO: 4
85 <211> LENGTH: 344
86 <212> TYPE: DNA
87 <213> ORGANISM: Homo sapiens
89 <400> SEQUENCE: 4
90 aaacactaca tcactgccta ctccaagccc tagctccagt acgggaagtg aaccatgaca      60
91 ggaaatttaa catctacagg aaaagtagaa acacaattct tctaaggttt tatataactc      120
92 caactaaggt catctcttcc ttgccattaa cttctgtaac gcctgtaatc ccagcacttt      180
93 gggaggccga ggcgggcgga tcacgaggtc aggagatcga gaccatcccg gctaaaacgg      240
94 tgaaaccttg tctctactaa aaatacaaaa aactagccgg gcgtagtggc ggcgcctgt      300
95 agtcccagct acttgggagg ctgaggcagg agaatggcgt gaat                                     344
97 <210> SEQ ID NO: 5
98 <211> LENGTH: 317
99 <212> TYPE: DNA
100 <213> ORGANISM: Homo sapiens
102 <400> SEQUENCE: 5
103 tacgacagaa cggcaccatg ttggccacgc tggctctgaa agcctgaact caggtgattt      60
104 gccgcctcgc gcctcccaaa acgctgggat taccgccgtg agccaccatg cctggccttg      120
105 tccatttttag agccagcaag ccaatcacat ttcaaggcct ctggtcccct tttgtgaaat      180
106 aaatctctat acagggcacg gtttcacccc tctctccagc tcctagcagt tccatagcac      240
107 gcttctaacc tgctgtaaca gagtgaggat ttccatgtcc ttatgcagtg gatgaatgat      300
108 aggggtgagt agaacct                                     317
110 <210> SEQ ID NO: 6
111 <211> LENGTH: 345
112 <212> TYPE: DNA
113 <213> ORGANISM: Homo sapiens
115 <400> SEQUENCE: 6
116 agtgctggag aatcatgtag ttaatcccat tgctcttaca agtgtcagct tacttgatc      60

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117 agcctcccta cgcaaggacc tatgcactgg agccgtagga ggctcttcag ttgggccccca 120
118 aggataaggc tactgatttg atactaaatg aatcagcagt ggatgtaggg atagctgatt 180
119 ttaaaacact cggctgggca cagtggctca cactgtaat cccagcactt tgggaggctg 240
120 aggcaggcag atcatgatgt caggagtgtg agaccagcct ggccaatatg gtgaaaccct 300
121 gtctctacaa aaaatacaaa aattagctgg gcatgtgggg cgtgt 345
123 <210> SEQ ID NO: 7
124 <211> LENGTH: 359
125 <212> TYPE: DNA
126 <213> ORGANISM: Homo sapiens
128 <400> SEQUENCE: 7
129 cactgcaacc tccgcctccc aggttcatgc cattctctcg cctcagcctc ccgagcagct 60
130 gggattcccc gcaaccacca ccatgccag cgactttttt gtatttttag tagagacagg 120
131 gtttctactgt gttagccagg atgttcttga tctctgacc tcgtgatcca cccgcctcag 180
132 cctcccaaag tggtgggatt acaggcgtga gccaccgagc ccggccgagc agataggtta 240
133 tcaaagagct gagcaaatg tgtagcagtc tcacagtact agggagataa aggtagggaat 300
134 tcaggacttt ccagggtgca caggctttgg taaatgcctc acattatcag ctgaaaacc 359
136 <210> SEQ ID NO: 8
137 <211> LENGTH: 398
138 <212> TYPE: DNA
139 <213> ORGANISM: Homo sapiens
141 <220> FEATURE:
142 <221> NAME/KEY: misc_feature
143 <222> LOCATION: (1)...(398)
144 <223> OTHER INFORMATION: n = A,T,C or G
146 <400> SEQUENCE: 8
147 tgagtctcaa actcctgggc tcaagtgatt ctccacctc agcctcccaa gtagctggga 60
W--> 148 ctagaggcat gtaccaccac gcctgcctaa tttttttgta ttttttagtag agatggggn 120
W--> 149 tnaccatatt ggcaggctg atcttgaact cctgtcctcg ggtgaactat ctggcatggt 180
150 ctagtatatg gacgtgcaca catacttctt tttgtatgaa ttcttcagca gaaatggggg 240
151 tacttgggct gtgcgcccc cgtcctctt tataatgtct tgtatttaga aggaaggggc 300
152 tgcgttggc tcttcgaaat gtgcgggta taaattcgct gaggagtgtc tgtgaccacc 360
153 cttctaacga ttcttctacg tgtgtagctc tccagctc 398
155 <210> SEQ ID NO: 9
156 <211> LENGTH: 382
157 <212> TYPE: DNA
158 <213> ORGANISM: Homo sapiens
160 <400> SEQUENCE: 9
161 agaggaggag aatcgggagc acaagaagga ggaggagatg aagaggtgaa ggagaggagg 60
162 aggaaaggag aagagaagga ggaggagaaa agaaaggagt ggagaaagag gagaggagga 120
163 gaaaaaatag gaaacgaaga ggagaagaat aggaggagga aaaggatggg agaaaagaaa 180
164 aaggaaaagt aggaggagta gaaaaagagg agaaggagga agaagaaaga gaaggaggag 240
165 acgaaaagaa tgagaaaaag aggagaggag aatgaggaga aggcgtataa gataagaacg 300
166 aggagaggat taagaaggag aagtagagga ggaggagaga agaggaaagg aggaggaaa 360
167 gagaatacaa ggaggaagag aa 382
169 <210> SEQ ID NO: 10
170 <211> LENGTH: 326
171 <212> TYPE: DNA
172 <213> ORGANISM: Homo sapiens
174 <400> SEQUENCE: 10

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175 ccaaccagat gttgactgtc atcactggga ctcaactggg aaacctcttt ttctctccaa      60
176 atttgctgct ctagggtgcta aggggtctgta ggacagagct ttgggactgt tagaattcta      120
177 tcagaaaaaa acgagacaga aggtataag catgagtgtg ggcagggtgc tgtggttcac      180
178 ttctgtaatc ccagcacttt gggaggccaa ggtaggagaa tcccttgaag ccaggaattc      240
179 aagaccaccc tgggcaatat agcaaaacca tgattctaca aaaaattaaa aagttatctg      300
180 agtgtggtgg cacacacctg tagtcc      326

182 <210> SEQ ID NO: 11
183 <211> LENGTH: 286
184 <212> TYPE: DNA
185 <213> ORGANISM: Homo sapiens
187 <220> FEATURE:
188 <221> NAME/KEY: misc_feature
189 <222> LOCATION: (1)..(286)
190 <223> OTHER INFORMATION: n = A,T,C or G
192 <400> SEQUENCE: 11
193 gaagaagggtg gggaggaaga ggaggaggaa gaagaagggtg atggtgagga agatgatgga      60
194 catgactatg cggaatctgg atcagctatg tgtaatcggg ctgctgaata ttattaggat      120
W--> 195 gacgagtgtg atacctacaa gcttatnact tgggaggctt gctctttag tagtctgtgt      180
196 atcttttgga ggtttagtag tatatgttct ctgttttcct tttttctctt tcttttttta      240
197 atgaaaaaaa aggacctctc ggtttatttt gtgtggttat ttatcg      286

199 <210> SEQ ID NO: 12
200 <211> LENGTH: 325
201 <212> TYPE: DNA
202 <213> ORGANISM: Homo sapiens
204 <400> SEQUENCE: 12
205 gcggtctggg ctactgcaa gctgcacctg ctgatgtcaa gcaactctac agcctcatgc      60
206 tcccaagtag ctgggattac agcagcgcac cattatacct ggctaattgt tgaataatta      120
207 gaacgggagg agatttgcta taggaaagtc ctaaaataaa ggaaaagtga tgagccctaa      180
208 taaacaagta gtgtttttga ctacgacattg aaaaaaatga atgagctatg accaggagat      240
209 ctaagtttct tttggtggct aacatgcaca aaagttatct gttcaataag ggtagtattg      300
210 atggtccata tctcatatta actag      325

212 <210> SEQ ID NO: 13
213 <211> LENGTH: 320
214 <212> TYPE: DNA
215 <213> ORGANISM: Homo sapiens
217 <400> SEQUENCE: 13
218 agcctcttga gtagctggga ctataggcgc cggccaccac acccggttaa tttttttgta      60
219 ttttttagtag agacggcggt tcaccgtgtt agccaggatg gccttgatct cctgacctcg      120
220 tgattcggct gccttggcct cccaaagtgc tgtgattacc agcgtgagcc gccgtgcccg      180
221 gccactagcg gcatttaatt aaagagatct tggcgccgtc tctcgtatac tattgcctct      240
222 aaccttgccg gtgacctgc ctgacctta gtctgcttat tggaataacg gggatgtcct      300
223 tgctttcaca aggtttgatc      320

225 <210> SEQ ID NO: 14
226 <211> LENGTH: 353
227 <212> TYPE: DNA
228 <213> ORGANISM: Homo sapiens
230 <400> SEQUENCE: 14
231 cgggcctggc ggatcacctg cggcagttag tttgagacca gcctgacctt ttttttgaaa      60
232 cccgggctat actatagata caaaagtagc tggctcgtggc ggcacatgcc tgtattacca      120

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Input Set : A:\Pto.amc  
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```

233 tctactatgg agggagagggc tggataatca cttgaacctg gtaggcgaag gttgtggtga      180
234 gccgagatcg caccattgca ctccagcctg ggcaacaaga gcgaaactac gtctcacaaa      240
235 aaaaaaaaaa aaaatctttg gggccggttt ttaaataaac tcgacatgga agcacacact      300
236 tgtaggcttg ggcacacccc aaagcttgag cggcgggaaa aaattgtttt ttg          353
238 <210> SEQ ID NO: 15
239 <211> LENGTH: 349
240 <212> TYPE: DNA
241 <213> ORGANISM: Homo sapiens
243 <400> SEQUENCE: 15
244 gaatccagat ggcaagaatt gtctttgcta cccctacatc tacggtttac tttgatgagc      60
245 aattggcttc attatttggg ccaccacttt tatatacata ctgggtttga gggcagcaac      120
246 cagcattctt ggctaagata aatgaggctg ggcacagtag cttatgcctg taatcccagg      180
247 actttgggag gcctagggtg gaggatcact tgagcttagg agttctagac tagcctaggc      240
248 aacatagcaa gaccctaact ctaaaacaat tttttttttt tttttttgga gaagagtttc      300
249 acttttttgg cccaagctga gagggacgct gccaccgga ggattcctg          349
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252 <211> LENGTH: 405
253 <212> TYPE: DNA
254 <213> ORGANISM: Homo sapiens
256 <220> FEATURE:
257 <221> NAME/KEY: misc_feature
258 <222> LOCATION: (1)...(405)
259 <223> OTHER INFORMATION: n = A,T,C or G
261 <400> SEQUENCE: 16
262 cggtgctgtc ggtcaaaaact gtctttaaaa atcctaccca tccctttaag ttcagttgaa      60
263 aattacctct tatataaagc ttctgcta atccctccattt cccagcccca gaggggactg      120
264 ttttttccaa aggggacttt ttctgtaacc ccataatgt tttatgttct ttatatggag      180
265 ttatataaat ttgcatgtgt attggaatca tttaggtaat tgtcttatct tcattgctag      240
266 agtgtaagct cttaaggtta aagacagtgt tattcagtta attatctccc caaataccta      300
W--> 267 ntatagcatc ttaggcctat ctagtagata ctcaaaaaat atatatccta ataaatgtga      360
268 ttaagctatc acatttagtg cctatggtag gcactaaatc aaggt          405
270 <210> SEQ ID NO: 17
271 <211> LENGTH: 307
272 <212> TYPE: DNA
273 <213> ORGANISM: Homo sapiens
275 <400> SEQUENCE: 17
276 gcagtggcat gatctcagct cactgcaacc tccgcctccc aggttcatgc cattctcctg      60
277 cctcagcctt ccgagtagct gggactacag gctcccgaca ccatgccag ctaattctct      120
278 ggattgatag tatagacggg tttttattgt ttttttccac atttttcttt ttagtattgc      180
279 ctatatcttc tcggcatctt gtacctaata gtgtgcgttt aaaaaattgc ctggcaacat      240
280 atatacgctt ttttattttt atgacttgaa taaaaaaagg tgggactccc aatttgttct      300
281 cgcacct          307
283 <210> SEQ ID NO: 18
284 <211> LENGTH: 138
285 <212> TYPE: DNA
286 <213> ORGANISM: Homo sapiens
288 <400> SEQUENCE: 18
289 acagttttaa acaacaggaa gtcttcattc ccttctcggg tgtctttggt catctgggcc      60
290 ctgatggtgg agccatgcca gatagaggga ttatgatgct taaatctagt aggattactg      120

```

f3I

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields for each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/803,719

DATE: 04/03/2001  
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Input Set : A:\Pto.amc  
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L:32 M:270 C: Current Application Number differs, Replaced Current Application No  
L:32 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:55 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1  
L:56 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1  
L:148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:195 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11  
L:267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16  
L:320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20  
L:349 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29  
L:467 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31  
L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37  
L:573 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38  
L:608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40  
L:650 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43  
L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45  
L:701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46  
L:758 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50  
L:783 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52  
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:886 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59  
L:953 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64  
L:1053 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72  
L:1189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82  
L:1217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84  
L:1219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84  
L:1237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85  
L:1251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86  
L:1273 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87  
L:1334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91  
L:1487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102  
L:1500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103  
L:1507 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103  
L:1537 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:105  
L:1556 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106  
L:1572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:107  
L:1588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:108  
L:1639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:111  
L:1701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115  
L:1719 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:116  
L:1736 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:117  
L:1814 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122  
L:1833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:123  
L:1934 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130  
L:1935 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130  
L:1936 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130  
L:1952 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131

VERIFICATION SUMMARY                      DATE: 04/03/2001  
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Input Set : A:\Pto.amc  
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L:1971 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:132  
L:2071 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:139  
L:2104 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141  
L:2191 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147